

## Social Science Research in India: A Scientometric Analysis of Publications (2001-10)

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### ABSTRACT

The study analyses India's performance in social sciences, using different quantitative and qualitative measures. Its focuses on India's global publication share, rank and growth rate, citation quality, international collaborative publications share, its publication share and distribution in various broad and narrow subjects using 10 years data from the Scopus international multidisciplinary database. The study indicates that India has great potential in giving and sustaining still higher publication growth in social sciences in the coming years as compared to other countries. Achieving this will depend in part on the increased investment in R&D and in higher education, strengthening the educational and research infrastructure, increased deployment of qualified manpower, better interaction amongst the professional community, increased international cooperation with other countries, stricter evaluation and monitoring system in promotions, in awarding degrees, research grants, and research projects.

**Keywords:** Scientometric, social science research, publication, India

### 1. INTRODUCTION

Social sciences research in India is chiefly driven by two forces:

- (a) Interest in knowledge about the functioning of the society in its diverse social, cultural, political and economic aspects, and in understanding the factors that shape them; and
- (b) Practical needs of policy makers and managers in government, civil society and the private sector for reliable information and professional analysis<sup>1</sup>.

The social science research in India is largely remained a state funded activity mainly funded by Government of India and its agencies such as the Indian Council of Social Science Research (ICSSR) and University Grants Commission (UGC). The Indian Council of Social Science Research was set up in 1969 with the specific objective of promoting socio-economic research by establishing institutes in different parts of the body, funded jointly by the central and the state governments, to support individual research projects and to provide research fellowship. The UGC also supports research in social sciences in universities and helped in the funding the creation and expansion of social science faculties in

the universities and colleges. In addition it initiated a program to fund centres of advanced studies in the university departments with outstanding faculty and special assistance programme to nurture and support promising university departments in different social sciences to expand and strengthen their research capabilities.

In the past some bibliometric studies have been undertaken on the status of social sciences research<sup>2-5</sup>. The ICSSR Review Committee Report<sup>1</sup> also assessed status of social science research based on bibliometric analysis sample data published during 2004-05 in eight select journals and on publications data on books and monographs as published on social science themes by eight select publishers. For building a more reliable, objective and comprehensive picture of social science research in India, it is important to analyse research output published in the past 10 years.

### 2. OBJECTIVES

The main objectives of this study are to analyse:

- (i) India's publication output, growth, citation impact and its global publications share and rank;

- (ii) International collaborative share and identification of leading collaborating partners;
- (iii) Publications output by geographical regions;
- (iv) Institutional participation, and
- (v) Sub-field wise distribution of its output

**3. METHODOLOGY AND DATA SOURCE**

The study used Scopus database<sup>6</sup> to extract relevant data on social science research in India and other most productive countries for the past ten years (2001-10). Scopus is the international multidisciplinary database indexing 18000 peer-reviewed journals (including 1800 open access journals), besides more than 500 international seminar/conference proceedings, 400 trade publications and 300 book series. In this analysis, all types of items included in the database were covered. A three-year citation window has been used for counting the citations received and to access the impact of Indian research output. The main search strategy string used for generating Indian publications output in social sciences was as follows:

AFFIL(india) AND PUBYEAR > 2000 AND PUBYEAR < 2011AND (LIMIT-TO (SUBJAREA, "SOCI") OR LIMIT-TO(SUBJAREA, "BUSI") OR LIMIT-TO (SUBJAREA, "DECI")OR LIMIT-TO(SUBJAREA, "ECON") OR LIMIT-TO(SUBJAREA, "PSYC"))

For calculating the total international collaborative papers in social science, a separate search strategy, which combines India’s collaboration with 140 countries, was prepared and this strategy was combined with the main string and search strategy to generate India’s total collaborative papers. For analysing institutional, city-wise and sub-field wise output, separate search strategies were evolved and these strategies were combined with the main search strategy to generate the desired output.

**4. ANALYSES**

**4.1 Global Publication Output, Rank & Share**

In Social sciences, India ranks at 12th position among the top 15 most productive countries with 1.18 % global publication share during 2001-10. Overall, the top 15 most productive countries in social sciences have shown wide disparity in their global publications share, between 0.90% and 25.39 % of the cumulative world publications output during 2001-10. The United States tops the list with 25.39 % global publications share, followed by United Kingdom with 8.77 % share. The countries that were ranked at 3<sup>rd</sup> to 8<sup>th</sup> positions were China, Canada, Germany, Australia, France, and Netherlands (with global publication share varying between 2.17% and 5.14 %) during 2001-10. The other countries ranked at 9th to 15th positions were Spain, Italy, Japan, India, Taiwan, Sweden, and Brazil (with global publication share varying between 0.90 % and 1.87 %) (Table 1).

Among the top 15 countries, all countries have shown increase in their global publications share from 2001-05 to 2006-10.

**4.2 India’s Publication Output, Citation Impact and International Collaboration**

In all, India has published 21671 papers in Social sciences during 2001-10. The annual Indian output in social sciences grew from 1208 papers in 2001 to 4321 papers in 2010, witnessing an annual average growth rate of 17.66 %. The cumulative Indian publications output in Social sciences grew from 6538 papers during 2001-05 to 15133 papers during 2006-10, witnessing a growth rate of 131.46%. The average Indian citation impact, as reflected in average citation impact per paper, in social sciences was 1.54 during 2001-10, which increased from 1.47 during 2001-05 to 1.57 during 2006-10. The

**Table 1. Global publications output, share and rank of top 15 countries in Social sciences (2001-10)**

Country	Publications output			Publications share			Publications rank		
	2001-05	2006-10	2001-10	2001-05	2006-10	2001-10	2001-05	2006-10	2001-10
United States	177080	287522	464602	25.34	25.42	25.39	1	1	1
United Kingdom	59522	100897	160419	8.52	8.92	8.77	2	2	2
China	17776	76370	94146	2.54	6.75	5.14	6	3	3
Canada	25350	45540	70890	3.63	4.03	3.87	3	4	4
Germany	24575	43811	68386	3.52	3.87	3.74	4	5	5
Australia	18866	38927	57793	2.70	3.44	3.16	5	6	6
France	15120	31474	46594	2.16	2.78	2.55	7	7	7
Netherlands	13773	25903	39676	1.97	2.29	2.17	8	8	8
Spain	9545	24624	34169	1.37	2.18	1.87	10	9	9
Italy	9335	21174	30509	1.34	1.87	1.67	11	10	10
Japan	9926	17145	27071	1.42	1.52	1.48	9	11	11
India	6538	15133	21671	0.94	1.34	1.18	12	12	12
Taiwan	4871	14144	19015	0.70	1.25	1.04	14	13	13
Sweden	6382	12024	18406	0.91	1.06	1.01	13	15	14
Brazil	2684	13725	16409	0.38	1.21	0.90	15	14	15
<b>World</b>	<b>698880</b>	<b>1130997</b>	<b>1829877</b>	<b>100</b>	<b>100</b>	<b>100</b>			

share of Indian international collaborative papers during 2001-10 was 16.18 % during 2001-10, which increased from 14.04 % during 2001-05 to 17.10 % during 2006-10 (Table 2).

Contribution of India amongst other countries are projected in Table 3. Among India's top 15 leading collaborating partners in social sciences, USA tops the list with 42.18 % publications share, followed by UK (15.06 % share).

### 4.3 Geographical Distribution of Indian Publications

Delhi, Mumbai, Bangalore, Kolkata, and Chennai were the most productive cities contributing from 5.29 % to 17.08 % share individually (together 46.11 %) to Indian Social science output during 2001-10 (Table 4). Hyderabad, Pune, Kharagpur, Kanpur, Ahmedabad, Chandigarh, and Lucknow

**Table 2. Indian publications output, citation impact and international collaboration**

Period	Total publications	Total citations	Average citations per paper	International collaborative papers (%)
2001	1208	1252	1.04	124 (10.26%)
2002	1263	1358	1.08	120 (9.50 %)
2003	1370	2038	1.49	217 (15.84 %)
2004	1336	2137	1.60	230 (17.22 %)
2005	1361	2831	2.08	227 (16.68 %)
2006	2491	5231	2.10	330 (13.25 %)
2007	2579	5622	2.18	428 (16.60 %)
2008	2763	6230	2.25	497 (17.99 %)
2009	2979	3765	1.26	583 (19.57 %)
2010	4321	2837	0.66	750 (17.36 %)
2001-05	6538	9617	1.47	918 (14.04 %)
2006-10	15133	23685	1.57	2588 (17.10 %)
2001-10	21671	33302	1.54	3506 (16.18 %)

**Table 3. Contribution of India's top 15 collaborating partners in social sciences (2001-10)**

Collaborating country	International collaborative papers			International collaborative papers Share		
	2001-05	2006-10	2001-10	2001-05	2006-10	2001-10
USA	410	1069	1479	44.66	41.31	42.18
UK	145	383	528	15.80	14.80	15.06
Canada	62	193	255	6.75	7.46	7.27
Australia	56	158	214	6.10	6.11	6.10
Germany	59	127	186	6.43	4.91	5.31
China	51	131	182	5.56	5.06	5.19
Netherlands	30	111	141	3.27	4.29	4.02
Japan	36	96	132	3.92	3.71	3.76
France	20	110	130	2.18	4.25	3.71
Switzerland	23	66	89	2.51	2.55	2.54
Malaysia	18	68	86	1.96	2.63	2.45
South Korea	18	60	78	1.96	2.32	2.22
Singapore	9	66	75	0.98	2.55	2.14
Spain	19	56	75	2.07	2.16	2.14
Italy	12	58	70	1.31	2.24	2.00
<b>Total of India</b>	<b>918</b>	<b>2588</b>	<b>3506</b>			

**Table 4. Geographical Distribution of Indian Social Science Output, 2001-10**

Name of cities	Publications output			Publications share		
	2001-05	2006-10	2001-10	2001-05	2006-10	2001-10
Delhi	1275	2427	3702	19.50	16.04	17.08
Mumbai	769	1185	1954	11.76	7.83	9.02
Bangalore	509	1366	1875	7.79	9.03	8.65
Kolkata	398	917	1315	6.09	6.06	6.07
Chennai	271	875	1146	4.14	5.78	5.29
Hyderabad	230	590	820	3.52	3.90	3.78
Pune	155	350	505	2.37	2.31	2.33
Kharagpur	89	382	471	1.36	2.52	2.17
Kanpur	149	300	449	2.28	1.98	2.07
Ahmedabad	121	243	364	1.85	1.61	1.68
Chandigarh	97	196	293	1.48	1.30	1.35
Lucknow	58	203	261	0.89	1.34	1.20
Thiruvanthapuram	62	126	188	0.95	0.83	0.87
Bhubaneswar	50	122	172	0.76	0.81	0.79
Varanasi	30	115	145	0.46	0.76	0.67
Indore	35	84	119	0.54	0.56	0.55
Pondicherry	29	85	114	0.44	0.56	0.53
Patna	12	25	37	0.18	0.17	0.17
<b>Total of India</b>	<b>6538</b>	<b>15133</b>	<b>21671</b>			

were the medium productive cities contributing from 1.20 % to 3.78 % share individually (together 14.58 %) to Indian social science output during 2001-10. Thiruvananthapuram, Bhubaneswar, Varanasi, Indore, Pondicherry, and Patna were the least productive cities contributing from 0.17 % to 0.87 % share individually (together 3.58 %) to Indian Social science output during 2001-10.

#### 4.4 High Productive Institutions in India

Based on the analysis of institutional publications, 43 institutions were identified as high productive

in Social sciences in India (Table 5). These 43 institutions include 8 institutes of national importance (with 2919 papers), 15 universities (with 2779 papers), 12 social science institutes (with 1027 papers) and 8 management institutes (with 672 papers). Individually these institutions published 32 and above papers during 2001-10. Together, they contributed 7397 papers, accounting for 34.13 % share to Indian output in Social sciences. Individually, these institutions contributed 32 to 633 papers, with an average of 172 papers per institute. Only 13 institutions have published output above the average

**Table 5. Publication profile of top 43 Indian institutions in Social sciences (2001-10)**

S. No.	Name of Indian organisation	Total publications	Total citations	Average citations per paper	h-Index
1.	IIT, New Delhi	633	1710	2.7	27
2.	University of Delhi	496	634	1.28	16
3.	Jawaharlal Nehru University	469	430	0.92	12
4.	IIT, Kharagpur	426	683	1.6	19
5.	Indian Statistical Institute, Kolkata	362	765	2.11	18
6.	Indian Institute of Science, Bangalore	360	582	1.62	17
7.	IIT, Kanpur	343	768	2.24	20
8.	IIT, Mumbai	298	437	1.47	13
9.	Anna University	296	266	0.9	10
10.	IIT, Chennai	274	584	2.13	19
11.	Jadavpur University	225	519	2.31	16
12.	IIT, Roorkee	223	537	2.41	17
13.	University of Calcutta	173	264	1.53	10
14.	University of Mumbai	168	97	0.58	8
15.	Aligarh Muslim University	159	312	1.96	11
16.	Tata Institute of Social Sciences, Mumbai	144	160	1.11	9
17.	IIM, Ahmedabad	133	179	1.35	11
18.	IIM, Kolkata	130	323	2.48	14
19.	Indira Gandhi Institute of Development Studies, Mumbai	124	221	1.78	13
20.	University of Hyderabad	123	128	1.04	8
21.	IIM, Bangalore	123	305	2.48	12
22.	NISTADS, New Delhi	123	166	1.35	9
23.	Panjab University	122	147	1.2	8
24.	Banaras Hindu University	104	116	1.12	8
25.	International Institute of Population Studies Mumbai	98	151	1.54	9
26.	M.S. University of Baroda	94	137	1.46	7
27.	Center for Studies in Social Sciences, Kolkata	94	173	1.84	9
28.	University of Pune	93	87	0.94	6
29.	University of Mysore	91	66	0.73	5
30.	Institute for Social & Economic Change, Bangalore	90	73	0.81	6
31.	Guru Nanak Dev University	84	83	0.99	6
32.	Visva Bharati University	82	171	2.09	8
33.	Institute of Economic Growth, Delhi	82	330	4.02	14
34.	Centre for Development Studies, Thiruvananthapuram	82	165	2.01	9
35.	IIM, Lucknow	70	192	2.74	8
36.	Institute of Management Technology, Ghaziabad	61	83	1.36	5
37.	Management Development Institute, Gurgaon	53	272	5.13	12
38.	Xavier Labour Relations Institute, Jamshedpur	51	154	3.02	9
39.	Indian School of Business, Hyderabad	51	254	4.98	10
40.	Madras Institute of Development Studies, Chennai	49	47	0.96	6
41.	Research Bank of India, Mumbai	40	77	1.93	6
42.	Centre for Policy Research, New Delhi	35	61	1.74	5
43.	Gokhale Institute of Politics & Economics, Pune	34	13	0.38	4
	<b>Total</b>	<b>7397</b>	<b>12929</b>	<b>1.75</b>	<b>10.95</b>
	Indian social science output	21671			
	Share of top 43 Indian Social science institutions in country output	34.13			

productivity of all institutions. These are IIT, New Delhi with 633 papers, followed by University of Delhi (496 papers), Jawaharlal Nehru University (469 papers), IIT, Kharagpur (426 papers), Indian Statistical Institute, Kolkata (362 papers), Indian Institute of Science, Bangalore (360 papers), IIT, Kanpur (343 papers), IIT, Mumbai (298 papers), Anna University (296 papers), IIT, Chennai (274 papers), Jadavpur University (225 papers), IIT, Roorkee (223 papers), and University of Calcutta (173 papers).

The average *h*-index registered by these 43 institutions varied from 2 to 27, with an average of 10.95 during 2001-10. Seventeen institutions out of 43 Indian institutions registered *h*-index higher than the average *h*-index of all institutions.

#### 4.5 Sub-field-wise Analysis of Papers

The total social sciences output here is sub-divided in five main fields namely Business, Management & Accounting, Decision Science, Economics, Econometrics & Finance, Psychology, and Social sciences-general as defined in Scopus database.

##### 4.5.1 Social Science-General

In Social sciences-general cumulative world publications output, India is ranked at 12th place among the top 15 most productive countries, with its global publication share of 1.06 % during 2001-10. Overall, the top 15 most productive countries in social sciences-general have shown wide disparity in their global publication share, between 0.86 % and 26.06 % of the cumulative world publications output during 2001-10. The United States tops the list with

26.06 % global publications share, followed by UK with 9.51 % share and 2nd rank, Canada (3.80 % share, 3<sup>rd</sup> rank), China (3.50 % share, 4<sup>th</sup> rank), Australia (3.28 % share, 5<sup>th</sup> rank), etc. (Table 6).

The absolute numbers of publications (10814) in Social sciences-general from India were 10814 during 2001-10, which increased from 473 in 2001 to 2503 in 2010 and grew at an annual average growth rate of 22.67%. The citation impact per paper of India in social sciences-general was 1.19, which decreased from 1.33 during 2001-05 to 1.15 during 2006-10 (Table 7).

India's global publication share increased from 0.74% during 2001-05 to 1.23% during 2006-10. The national publication share of India in social sciences-general was 49.90% during 2001-10, which increased from 41.48% during 2001-05 to 53.54% during 2006-10. The international collaborative publication share of India in social sciences-general was 16.38% during 2001-10, which decreased from 16.48% during 2001-05 to 16.34% during 2006-10. (Table 8).

##### 4.5.2 Business, Management & Accounting

In business, management & accounting cumulative world publications output, India is ranked at 7<sup>th</sup> place among the top 15 most productive countries, with its global publication share of 1.84% during 2001-10. Overall, the top 15 most productive countries in business, management & accounting have shown wide disparity in their global publication share, between 0.75% and 17.00% of the cumulative world publications output during 2001-10. The United States tops the list with 17.00% global publications

**Table 6. Global publication output, share and rank of top 15 countries in social sciences-general (2001-10)**

Country	Publication output	Publication share	Publication rank	Country	Publication output	Publication share	Publication rank
USA	266342	26.06	1	Spain	16790	1.64	9
UK	97170	9.51	2	Italy	13585	1.33	10
Canada	38794	3.80	3	Japan	12269	1.20	11
China	35749	3.50	4	India	10814	1.06	12
Australia	33552	3.28	5	Sweden	10012	0.98	13
Germany	31070	3.04	6	Brazil	9284	0.91	14
France	23962	2.34	7	Israel	8761	0.86	15
Netherlands	19823	1.94	8	World	1022108	100.00	

**Table 7. Publications output and citations received by India in social sciences-general (2001-10)**

Period	Total publications	Total citations	Average citations per paper
2001	473	444	0.94
2002	490	523	1.07
2003	533	655	1.23
2004	560	883	1.58
2005	656	1090	1.66
2006	1212	1611	1.33
2007	1219	1611	1.32
2008	1494	2426	1.62
2009	1674	1653	0.99
2010	2503	2000	0.80
2001-05	2712	3595	1.33
2006-10	8102	9301	1.15
2001-10	10814	12896	1.19

**Table 8. India's global, national and IC publication share in social sciences-general (2001-10)**

Period	Social sciences- overall	Social sciences-general					
	India's publication	Global publication	Indian publication	Indian IC publication	India's national publication share	India's global publication share	India's IC publication share
2001-05	6538	365782	2712	447	41.48	0.74	16.48
2006-10	15133	656326	8102	1324	53.54	1.23	16.34
2001-10	21671	1022108	10814	1771	49.90	1.06	16.38

share, followed by China with 7.59% share and 2<sup>nd</sup> rank, U.K (6.00 % share, 3<sup>rd</sup> rank), Germany (2.74 % share, 4<sup>th</sup> rank), Australia (2.60 % share, 5<sup>th</sup> rank), etc. (Table 9).

**Table 9. Global publication output, share and rank of top 15 countries in business, management & accounting (2001-10)**

Country	Publication output	Publication share	Publication rank
USA	69760	17.00	1
China	31147	7.59	2
UK	24619	6.00	3
Germany	11246	2.74	4
Australia	10671	2.60	5
Canada	9441	2.30	6
India	7559	1.84	7
Netherlands	5983	1.46	8
Taiwan	5406	1.32	9
France	5263	1.28	10
Spain	5222	1.27	11
Japan	5102	1.24	12
Italy	3727	0.91	13
South Korea	3194	0.78	14
Sweden	3067	0.75	15
<b>World</b>	<b>410328</b>	<b>100</b>	

**Table 10. Publications output and citations received by India in business, management & accounting (2001-10)**

Period	Total publications	Total citations	Average citations per paper
2001	547	303	0.55
2002	580	298	0.51
2003	641	488	0.76
2004	571	307	0.54
2005	486	613	1.26
2006	896	1132	1.26
2007	910	1123	1.23
2008	875	1346	1.54
2009	872	978	1.12
2010	1181	403	0.34
2001-05	2825	2009	0.71
2006-10	4734	4982	1.05
2001-10	7559	6991	0.92

**Table 11. India's global, national and IC publication share in business, management & accounting (2001-10)**

Period	Social sciences- overall	Business, Management & Accounting					
	India's publication	Global publication	Indian publication	Indian IC publication	India's national publication share	India's global publication share	India's IC publication share
2001-05	6538	167262	2825	161	43.21	1.69	5.70
2006-10	15133	243066	4734	581	31.28	1.95	12.27
2001-10	21671	410328	7559	742	34.88	1.84	9.82

The absolute number of publications in business, management & accounting was 7559 from India during 2001-10, which increased from 547 in 2001 to 1181 in 2010 and grew at an annual average growth rate of 15.81 % (Table 10).

India's global publication share increased from 1.69 % during 2001-05 to 1.95% during 2006-10. The national publication share of India in business, management & accounting was 34.88% during 2001-10, which decreased from 43.21 % during 2001-05 to 31.28 % during 2006-10. The international collaborative publication share of India in business, management & accounting was 9.82 % during 2001-10, which increased from 5.70 % during 2001-05 to 12.27 % during 2006-10. (Table 11).

#### 4.5.3 Decision Sciences

In Decision sciences cumulative world publications output, India is ranked at 14<sup>th</sup> place among the top 15 most productive countries, with its global publication share of 2.27 % during 2001-10. Overall, the top 15 most productive countries in decision sciences have shown wide disparity in their global publication share, between 1.36 % and 23.52 % of the cumulative world publications output during 2001-10. (Table 12).

The absolute number of publications in decision sciences was 2762 from India during 2001-10, which increased from 137 in 2001 to 603 in 2010 and grew at an annual average growth rate of 20.68 %. The citation impact per paper of India in decision science was 2.64, which decreased from 2.79 during 2001-05 to 2.59 during 2006-10 (Table 13).

India's global publication share increased from 2.09 % during 2001-05 to 2.34 % during 2006-10. The national publication share of India in decision science was 12.75 % during 2001-10, which increased from 10.51 % during 2001-05 to

**Table 12. Global publication output, share and rank of top 15 countries in decision sciences (2001-10)**

Country	Publication output	Publication share	Publication rank
USA	28610	23.52	1
China	24229	19.92	2
UK	8433	6.93	3
Canada	6094	5.01	4
France	5539	4.55	5
Germany	5334	4.38	6
Taiwan	4906	4.03	7
Spain	4159	3.42	8
Italy	4002	3.29	9
Australia	3695	3.04	10
Netherlands	3237	2.66	11
Japan	3072	2.53	12
South Korea	3024	2.49	13
India	2762	2.27	14
Belgium	1658	1.36	15
<b>World</b>	<b>121656</b>	<b>100</b>	

**Table 13. Publication output and citations received by India in decision science (2001-10)**

Period	Total publications	Total citations	Average citations per paper
2001	137	236	1.72
2002	127	224	1.76
2003	124	364	2.94
2004	132	473	3.58
2005	167	617	3.69
2006	311	995	3.20
2007	308	1392	4.52
2008	412	1739	4.22
2009	441	892	2.02
2010	603	363	0.60
2001-05	687	1914	2.79
2006-10	2075	5381	2.59
2001-10	2762	7295	2.64

13.71 % during 2006-10. The international collaborative publication share of India in decision science was 26.47 % during 2001-10, which decreased from 28.09 % during 2001-05 to 25.93 % during 2006-10 (Table 14).

#### 4.5.4 Economics, Econometrics & Finance

In economics, econometrics & finance cumulative world publications output, India is ranked at 18<sup>th</sup> place among the various productive countries, with its global publication share of 0.77% during 2001-10. Overall, the top 15 most productive countries in economics, econometrics & finance have shown

wide disparity in their global publication share, between 1.17% and 27.01% of the cumulative world publications output during 2001-10 (Table 15).

The absolute number of publications in economics, econometrics & finance was 1716 from India during 2001-10, which increased from 67 in 2001 to 458 in 2010 and grew at an annual average growth rate of 27.17 % (Table 16). The citation impact per paper of India in economics, econometrics & finance was

**Table 15. Global publication output, share and rank of top 15 countries in economics, econometrics & finance (2001-10)**

Country	Publication output	Publication share	Publication rank
USA	59949	27.01	1
UK	20476	9.22	2
Germany	10426	4.70	3
Canada	8249	3.72	4
France	7305	3.29	5
Australia	6989	3.15	6
China	6478	2.92	7
Spain	5985	2.70	8
Netherlands	5940	2.68	9
Italy	5624	2.53	10
Japan	3957	1.78	11
Taiwan	2981	1.34	12
Switzerland	2835	1.28	13
Sweden	2710	1.22	14
Belgium	2591	1.17	15
<b>World</b>	<b>221977</b>	<b>100</b>	

**Table 16. Publication output and citations received by India in economics, econometrics & finance (2001-10)**

Period	Total publications	Total citations	Average citations per paper
2001	67	147	2.19
2002	77	161	2.09
2003	86	314	3.65
2004	86	235	2.73
2005	79	239	3.03
2006	129	439	3.40
2007	221	563	2.55
2008	206	799	3.88
2009	307	471	1.53
2010	458	251	0.55
2001-05	395	1096	2.77
2006-10	1321	2523	1.91
2001-10	1716	3619	2.11

**Table 14. India's global, national and IC publication share in Decision science (2001-10)**

Period	Social sciences- overall		Decision Science				
	India's publication	Global publication	Indian publication	Indian IC publication	India's national publication share	India's global publication share	India's IC publication share
2001-05	6538	32904	687	193	10.51	2.09	28.09
2006-10	15133	88752	2075	538	13.71	2.34	25.93
2001-10	21671	121656	2762	731	12.75	2.27	26.47

2.11, which decreased from 2.77 during 2001-05 to 1.91 during 2006-10.

India's global publication share increased from 0.51% during 2001-05 to 0.91 % during 2006-10. The national publication share of India in economics, econometrics & finance was 7.92 % during 2001-10, which increased from 6.04 % during 2001-05 to 8.73 % during 2006-10. The international collaborative publication share of India in economics, econometrics & finance was 32.69 % during 2001-10, which decreased from 36.71 % during 2001-05 to 31.49 % during 2006-10 (Table 17).

**Table 17. India's global, national and IC publication share in economics, econometrics & finance (2001-10)**

Period	Social sciences- overall		Economics, Econometrics & Finance				
	India's publication	Global publication	Indian publication	Indian IC publication	India's national publication share	India's global publication share	India's IC publication share
2001-05	6538	77227	395	145	6.04	0.51	36.71
2006-10	15133	144750	1321	416	8.73	0.91	31.49
2001-10	21671	221977	1716	561	7.92	0.77	32.69

#### 4.5.5 Psychology

In psychology cumulative world publications output, India is ranked at 30<sup>th</sup> place among the top most productive countries, with its global publication

**Table 18. Global publication output, share and rank of top 15 countries in psychology (2001-10)**

Country	Publication output	Publication share	Publication rank
USA	132702	38.07	1
UK	37060	10.63	2
Canada	21336	6.12	3
Germany	20241	5.81	4
Australia	13638	3.91	5
Netherlands	13076	3.75	6
France	11552	3.31	7
Italy	8092	2.32	8
Spain	7994	2.29	9
Japan	6362	1.83	10
Israel	5137	1.47	11
Belgium	4752	1.36	12
Sweden	4736	1.36	13
Switzerland	4639	1.33	14
Brazil	3668	1.05	15
<b>World</b>	<b>348601</b>	<b>100</b>	

**Table 20. India's global, national and IC publication share in psychology (2001-10)**

Period	Social sciences- overall		Psychology				
	India's publication	Global publication	Indian publication	Indian IC publication	India's national publication share	India's global publication share	India's IC publication share
2001-05	6538	148381	427	126	6.53	0.29	29.51
2006-10	15133	200220	774	287	5.11	0.39	37.08
2001-10	21671	348601	1201	413	5.54	0.34	34.39

share of 0.34 % during 2001-10. Overall, the top 15 most productive countries in psychology have shown wide disparity in their global publication share, between 1.05 % and 38.07 % of the cumulative world publications output during 2001-10. (Table 18).

The absolute number of publications in psychology was 1201 from India during 2001-10, which increased from 71 in 2001 to 223 in 2010 and grew at an annual average growth rate of 14.93 %. The citation impact per paper of India in psychology was 3.69, which decreased from 4.13 during 2001-05 to 3.44 during 2006-10 (Table 19).

**Table 19. Publication output and citations received by India in psychology (2001-10)**

Period	Total publications	Total citations	Average citations per paper
2001	71	212	2.99
2002	76	246	3.24
2003	92	375	4.08
2004	98	417	4.26
2005	90	515	5.72
2006	128	569	4.45
2007	140	764	5.46
2008	132	723	5.48
2009	151	360	2.38
2010	223	245	1.10
2001-05	427	1765	4.13
2006-10	774	2661	3.44
2001-10	1201	4426	3.69

India's global publication share increased from 0.29 % during 2001-05 to 0.39 % during 2006-10. The national publication share of India in psychology was 5.54 % during 2001-10, which decreased from 6.53 % during 2001-05 to 5.11 % during 2006-10 (Table 20). The international collaborative publication share of India in psychology was 34.39 % during



2001-10, which increased from 29.51% during 2001-05 to 37.08 % during 2006-10.

## 5. CONCLUSIONS

India has published 21671 papers in social sciences during 2001-10. The annual Indian output in social sciences grew from 1208 papers in 2001 to 4321 papers in 2010, showing an annual average growth rate of 17.66 %. India ranks at 12<sup>th</sup> position in overall social sciences among the top 15 most productive countries with 1.18% global publication share during 2001-10. India's global publication share in social sciences increased from 0.94 % to 1.34 % from 2001-05 to 2006-10. The average Indian citation impact per paper in overall social sciences was 1.54 during 2001-10, which increased from 1.47 during 2001-05 to 1.57 during 2006-10. The international collaborative papers share of India in overall Social sciences during 2001-10 was 16.18 % during 2001-10, which increased from 14.04 % during 2001-05 to 17.10 % during 2006-10.

India has great potential in giving and sustaining still higher publication growth in social sciences in the coming years. The country needs to build up its research capacity, competence and knowledge base to help in bridging the gap with leading countries. Achieving this will depend in part on the increased investment in R&D and in higher education, strengthening the educational and research infrastructure, increased deployment of qualified manpower, better interaction amongst the professional community, increased international cooperation with other countries, stricter evaluation and monitoring system in promotions, in awarding degrees, research grants and research projects. The research capacity in the universities can be further improved in terms of computing and other infrastructure, course content, teaching methods, faculty development in emerging sub-fields, allocation of funds in specialised areas, and by attracting bright talent at Masters' and Doctorate level. This must be accompanied by strict criteria for the students for PhD programs and their evaluation for the degree and in faculty evaluation for time scale promotion.

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